

mandrel 20 to expand slightly, it being understood that it is preferable that both mandrels be made of a slightly yieldable plastic material. As the bead portion 42 of inboard mandrel 20 advances along cam surface 78, it will reach the area of the annular groove 76 and become lodged therein. In so doing, this brings the rim fingers 72 towards the hub 46, or, in other words, slightly compresses the fingers to reduce the effective diameter of the mandrel 22, preferably to bring it just slightly undersize with respect to the inner diameter of core 26 of roller cover 24.

Ideally, this locked or engaged position of the two mandrels 20 and 22 which causes constriction or reduction in the diameter of the outboard mandrel is the position for both assembling and removing a replaceable roller cover 28 onto the roller assembly 10. With the two mandrels in the engaged or locked position as shown in FIG. 2, a roller cover may be telescoped thereover until it abuts shoulder 38 at the juncture of the rear wall and the rim portion of mandrel 20. Continued movement of the roller cover in the direction indicated by the arrows A in FIG. 3, causes the two mandrels to become disengaged with the rim fingers 72 of mandrel 22 spreading slightly farther apart and in firm frictional engagement with the interior of the roller cover. This frictional engagement is not of sufficient magnitude however to prevent the axial sliding of roller cover 24 in a direction towards the inboard end of the roller assembly.

When the roller cover 24 has been pushed until the washer 44 adjacent rear wall 34 of mandrel 20 abuts well-known stop means similar to those ribs or stop means 52 shown in FIG. 2, the assembly is complete with the mandrels spaced apart and held in such a spaced condition by the frictional retention of roller cover 24 with respect to rim fingers 72 and mandrel 20 and the cooperation between shoulder 38 and the opposite end of the roller cover. This means of assembly insures that the user will have initial proper registration of the sleeve-like roller cover over the two mandrels. Moreover, it is much easier than attempting to assemble the roller cover wherein the mandrels are maintained spaced apart, with the roller cover first being telescoped over the outboard mandrel and subsequently efforts are made to obtain registration of the interior of the roller cover and the exterior or rim portion 36 of the inboard mandrel.

Another distinct advantage of the mandrel construction of this invention arises during removal of a roller cover 24 from the paint roller assembly 10. Here the operation is reversed. Preferably, finger or thumb pressure is applied against end wall 34 of inboard mandrel 20 to slide the same axially along axle 18 toward outboard mandrel 22. Though some manual force must be exerted, the frictional retention of fingers 72 against the interior of the roller cover 24 can be overcome. This advancement is continued until such time as the bead 42 at the interior of the open end 40 of inboard mandrel 20 begins riding upwardly and outwardly along frustoconical cam surface 78 of outboard mandrel 22. As previously explained, this continues until bead 42 seats in groove 46 and the end of rim 36 abuts shoulder 74. At this time, the fingers 72 are con-

stricted and the diameter of this portion of the outboard mandrel 22 is reduced. This permits the roller cover to be easily removed from the mandrel through the influence of gravity. It should be noted that during this operation there is no necessity for the user's hands to actually touch the roller cover 24 and, in particular, the paint-holding pile 28 thereof. The entire removal operation can be accomplished by pushing against the end wall 34 of inboard mandrel 20 until such time as the two mandrels engage, following which the roller cover 24 may be simply dropped from the roller assembly.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, as some modifications may be obvious to those skilled in the art.

We claim:

1. A paint roller assembly including a handle portion and an axle portion comprising: a first mandrel slidably and rotatably mounted on the axle, said first mandrel having a hub, rear wall means connected to the hub and a generally cylindrical rim portion connected to the rear wall means and terminating in a generally open end having radial reductions thereat providing a finger-constricting element; and a second mandrel rotatably mounted on the axle, means operable between said second mandrel and axle to prevent slidable movement of said second mandrel, said second mandrel having a hub and a generally cylindrical rim with means interconnecting the hub and rim, and slits formed in the rim to provide yieldable fingers with free ends facing generally towards the open end of the first mandrel, the fingers having portions of increased radius for normally frictionally engaging the interior of a roller cover assembled thereover, finger-constricting element seat means on the free ends of the fingers forwardly of the portion of increased radius, said first mandrel finger-constricting element being adapted to engage said second mandrel fingers to move the same radially inwardly and to occupy said seat means when said first mandrel is moved into engagement with said second mandrel.

2. The combination of claim 1 including a finger constriction member spreading and guiding surface forwardly of the seat means on the free ends of the fingers.

3. The assembly of claim 1 wherein the means interconnecting the hub portion and the rim portion of the second mandrel includes a rear wall to which the rim portion is connected and rib means extending from the rear wall to the hub portion.

4. The assembly of claim 1 wherein the seat means comprises a generally cylindrical reduction on the free ends of the fingers.

5. The assembly of claim 4 wherein the cylindrical reduction provides a radial shoulder extending generally transverse to the portions of the increased radius of the fingers.

6. The assembly of claim 4 wherein the spreading and guiding surface comprises a generally frustoconical segmental portion on the free ends of the fingers.

7. The assembly of claim 6 wherein the cylindrical reduction provides a radial shoulder extending generally transverse to the portions of the increased radius of the fingers.

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